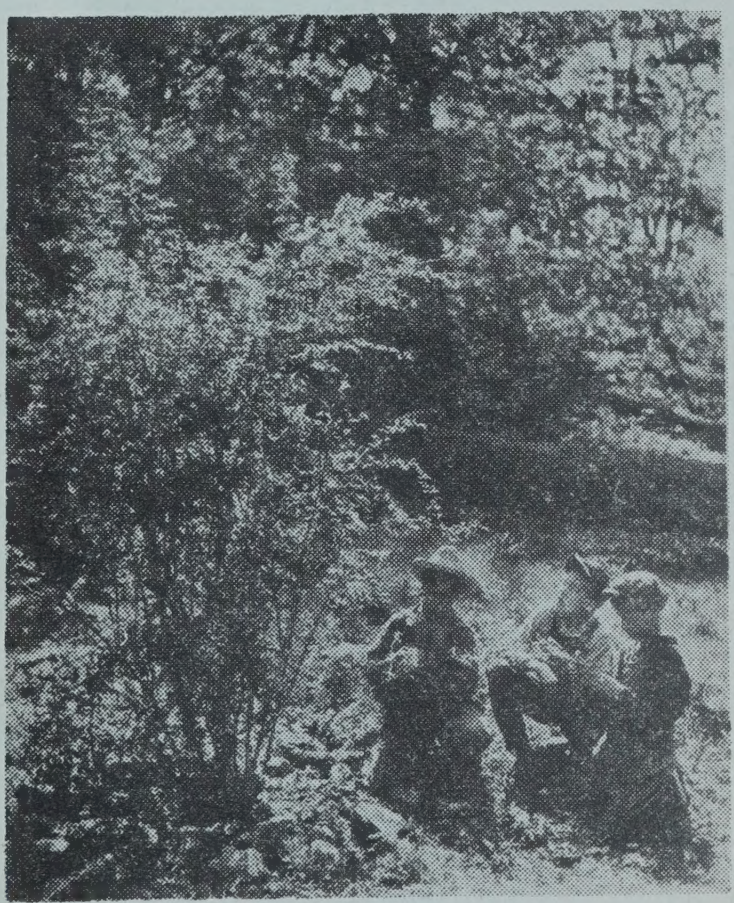
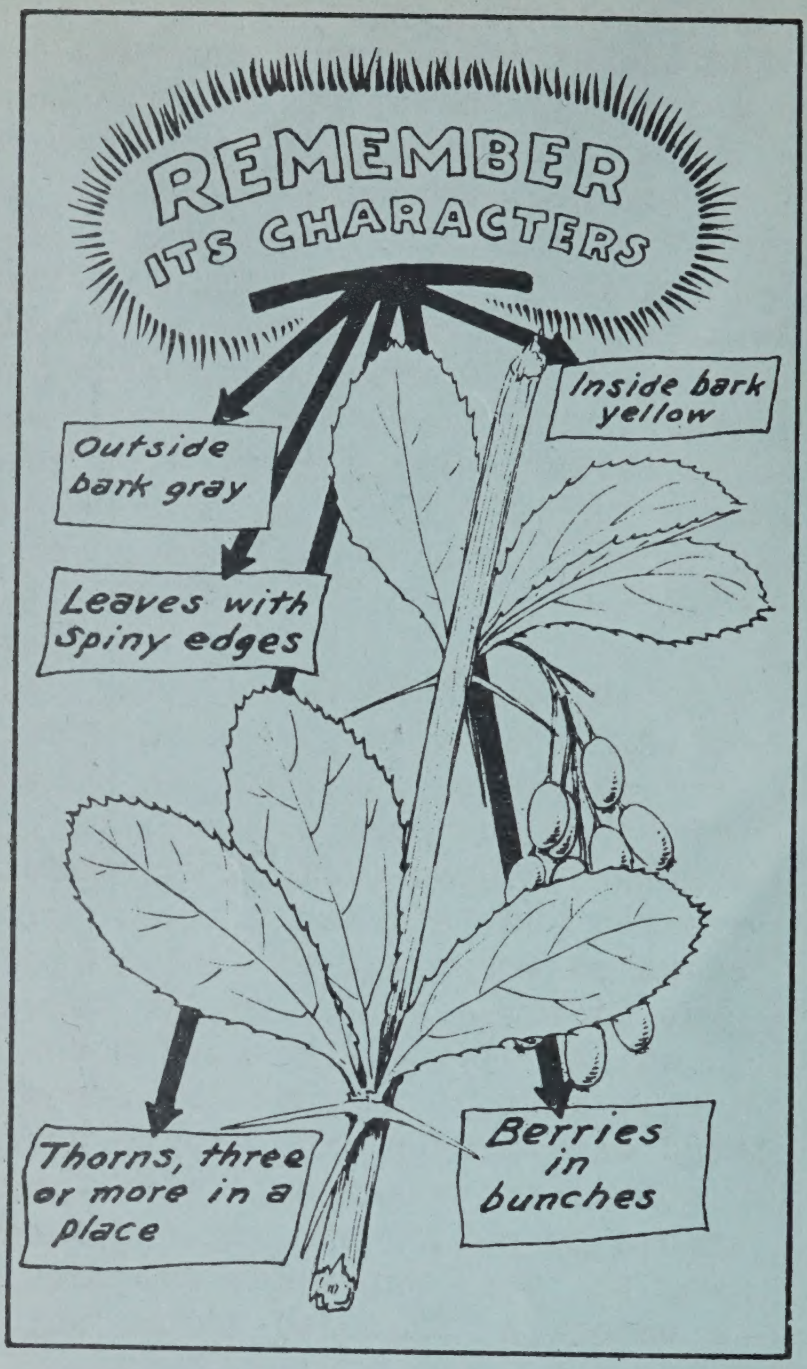
BARBERRY ERADICATION IN INDIANA





RUST-SPREADING BARBERRY

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Look for bushes that have leaves, thorns, berries, and bark like those shown in the diagram. Send a twig of any bush which you think may be a barberry to

BARBERRY ERADICATION OFFICE
PURDUE EXPERIMENT STATION ANNEX
W. LAFAYETTE, INDIANA

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Entomology and Plant Quarantine
Cooperating with
State Agricultural and Other Agencies
In The Eradication of The Common Barberry

Barberry Eradication Office
Purdue Experiment Station Annex
W. Lafayette, Indiana

Dear Teacher:

In recent years boys and girls in Indiana have been given an opportunity to cooperate in the eradication of the common barberry. Their response to this opportunity to be of service to their communities has been a source of great satisfaction and pleasure to those directly connected with this work. They have not only learned this interesting story themselves, but have taught it to others. They have searched their home properties for barberries and have interested their parents and neighbors in looking for these rust-spreading bushes.

A great deal of credit is due the school teachers of Indiana for the wonderful help which the boys and girls have given the barberry eradication campaign.

I want to take this opportunity to thank you for this splendid cooperation.

Very truly yours,

Wayne E. Lee

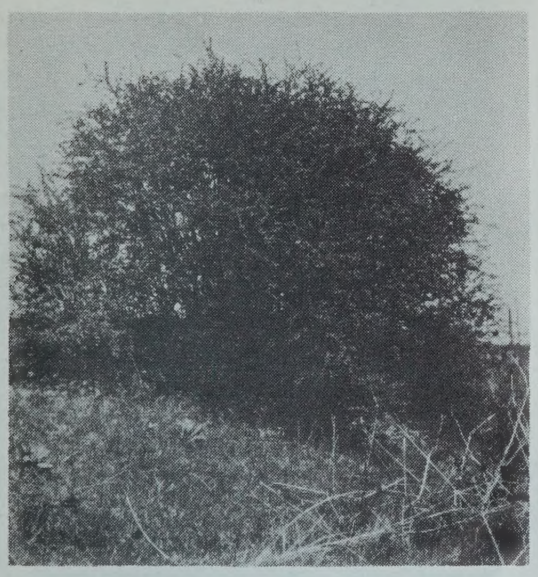
Leader in Charge

KILL THE COMMON BARBERRY TO CONTROL BLACK STEM RUST

REASON FOR BLACK STEM RUST

The common barberry, although a harmless appearing bush, is responsible for the spread of black stem rust. The parasitic fungus which causes this destructive plant disease is peculiar in that it lives a part of its life on the leaves of the common barberry and another part on the stems of wheat, oats, barley, and rye, and certain grasses. The rust not only steals all of its food from the growing plants but ruptures the stems, allowing moisture to escape. The result is light-weight, poor quality grain.

The rust lives over the winter by means of black spores, which correspond to seed of higher plants, which are found on old straw and stubble and on certain grasses. In the spring these black or over-wintering spores germinate and produce colorless spores which are carried about by the wind. Although they may fall on all kinds of plants, they will grow only on the leaves of the common barberry bush. This is the peculiar, but important characteristic of this plant disease.



In 1922, a large common barberry bush growing near Alert, in Decatur County, spread black stem rust to grains, causing an estimated crop loss of more than $50,000.

On the leaves of the common barberry bush, the fungus produces yellow spores which are carried to the grain fields by the wind. Here the rust grows along the stems of the grain plants producing brick-red spores which are spread from plant to plant, from field to field, and sometimes over an entire community by the aid of the wind. The rapidity with which the rust spreads depends upon the weather. Rust develops fastest during hot, muggy weather. About harvest time, the black or winter spores are produced and they again live through the winter on old straw and stubble.

RESULTS OF BLACK STEM RUST

This destructive plant disease reduces the quality, market value, and yield per acre of wheat, oats, barley, and rye, thus reducing the margin of profit for the small-grain grower.

Stem-rust shriveled grain is always discounted at the market.

Fortunately, in Indiana, stem rust does not develop into statewide epidemics but is confined to local outbreaks in the immediate vicinity of the common barberry. The damage is always most severe nearest these rust-spreading bushes.

One of the fields of wheat near Alert which, in 1922, was ruined by black stem rust spread by a single common barberry bush.

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Every farmer in Indiana is interested in producing the highest possible yield per acre and in receiving the highest available price per bushel for the small-grain that he harvests. Therefore, he is interested in the control of black stem rust.

RELIEF FROM BLACK STEM RUST

The world over agricultural peoples have controlled black stem rust by destroying the common barberry bush.

France, as early as 1660, passed laws prohibiting the growing of common barberry bushes near grain fields.

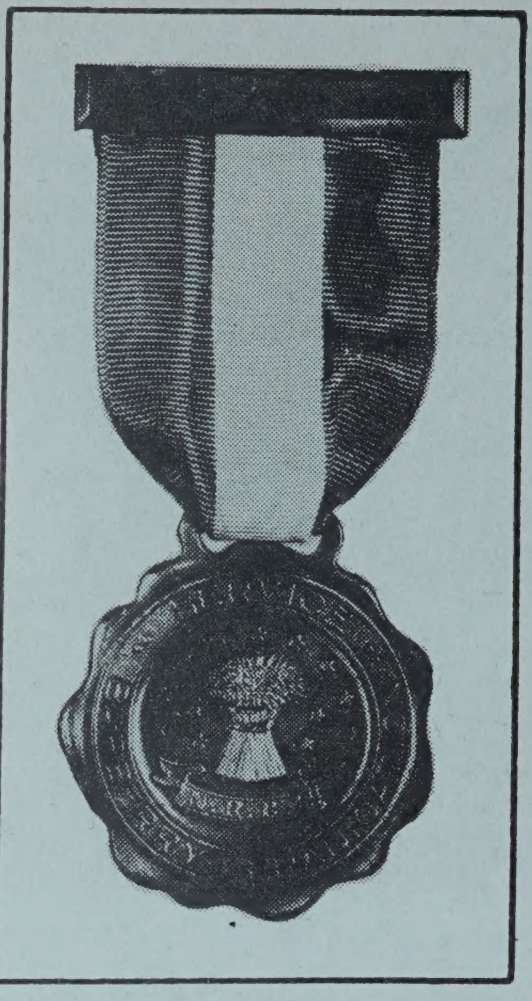
Denmark, in 1904, destroyed their barberry bushes in order to eliminate this principal hazard to small-grain production in that country.

In the United States, laws were passed as early as 1726, prohibiting cultivation of the barberry. However, it was not until 1918 that there was an organized campaign to eradicate the common barberry in order to control black stem rust in the North Central grain-growing region, which includes the States of Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming.

Treating a common barberry bush with salt

It is difficult to kill a common barberry by digging or pulling because sprouts come up from the root fragments which are invariably left in the ground. When properly treated with salt or kerosene, the common barberry does not sprout. In order to kill a barberry bush 12 inches in diameter at the base, apply 12 to 15 pounds of salt or a gallon of kerosene around the base of the bush, being careful to surround every shoot with the material used.

Crushed rock salt has been used to eradicate more than 270,000 barberry bushes in Indiana since the beginning of the program in 1918.



Here is the bronze medal that is given by the Rust Prevention Association of Minneapolis, Minn., to all boys and girls who report new locations of common barberry bushes.

Also awarded with this medal is an Honor Certificate signed by the Governor of the State of Indiana.

LEARN TO RECOGNIZE
RUST-SPREADING BARBERRY BUSHES

PROGRESS HAS BEEN MADE

Progress in Barberry Eradication may be measured by the number of rust-spreading barberries destroyed. However, a more important index of accomplishment is the results obtained in stem-rust control.

As the number of rust-spreading barberries destroyed has increased, the losses from stem-rust damage have decreased. From 1916 to 1921, the average annual loss of wheat from stem rust was 51,279,000 bushels, and approximately 4,000,000 barberries were destroyed. From 1922 to 1927, the average annual loss was 17,845,000 bushels, and approximately 14,000,000 barberries had been destroyed. From 1928 to 1933, the average annual loss had been reduced to only 3,471,000 bushels, and the number of rust-spreading barberries destroyed had been increased to nearly 19,000,000.

While there is always the tendency to slacken control efforts when the immediate danger seems to have passed, the fact must be recognized that thousands of barberries are still to be found growing in out-of-the-way places, along stream banks, in fence rows, in woods, and even on home sites.